

Audit



Report

OFFICE OF THE INSPECTOR GENERAL

UPGRADE OF THE INTERIM TANKMAN SYSTEM

Report No. 98-017

November 7, 1997

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Acronyms

DESCIM	Defense Environmental Security Corporate Information Management
RCRA	Resource Conservation and Recovery Act
TANKMAN	Army Tank Management



INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
400 ARMY NAVY DRIVE
ARLINGTON, VIRGINIA 22202-2884



November 7, 1997

**MEMORANDUM FOR ASSISTANT DEPUTY UNDER SECRETARY OF
DEFENSE (ENVIRONMENTAL QUALITY)
AUDITOR GENERAL, DEPARTMENT OF THE ARMY**

**SUBJECT: Audit Report on the Upgrade of the Interim TANKMAN System
(Report No. 98-017)**

We are providing this report for your information and use. The audit assessed the need to continue development of the interim Army Tank Management system. This report is one in a series on DoD management of underground storage tanks. We considered management comments on a draft of this report in preparing the final report.

Comments on the draft of this report conformed to the requirements of DoD Directive 7650.3 and left no unresolved issues. Therefore, no additional comments are required.

We appreciate the courtesies extended to the audit staff. Questions on the audit should be directed to Mr. Joseph P. Doyle, Audit Program Director, at (703) 604-9348 (DSN 664-9348) or Ms. Addie M. Beima, Audit Project Manager, at (703) 604-9231 (DSN 664-9231). See Appendix C for the report distribution. The audit team members are listed inside the back cover.

Robert J. Lieberman
Assistant Inspector General
for Auditing

Office of the Inspector General, DoD

Report No. 98-017

(Project No. 6CK-5051.03)

November 7, 1997

Upgrade of the Interim TANKMAN System

Executive Summary

Introduction. This audit was part of the overall audit of "DoD Management of Underground Storage Tanks," (Project No. 6CK-5051). The overall audit was jointly conducted by the Inspector General, DoD, and the Army, Navy, and Air Force audit agencies. The audit was performed in response to a request from the Assistant Deputy Under Secretary of Defense (Environmental Quality).

DoD is developing a standardized system to collect, track, and report DoD environmental data. DoD elected to use the Army Tank Management system as the interim system for maintaining data on storage tanks until the new system is fielded. However, the Army Tank Management system required upgrading for interim use across DoD.

Audit Objectives. The audit objective was to assess the cost-effectiveness of continuing to upgrade the Army Tank Management system. This report is one in a series on DoD management of underground storage tanks. The management control program will be addressed in the overall audit report.

Audit Results. It is not cost-effective to proceed with the upgrade of the interim Army Tank Management system. The Assistant Deputy Under Secretary of Defense (Environmental Quality) would have spent \$98,000 for unnecessary upgrades to the Army Tank Management system. See Part I for a discussion of the audit results.

Corrective Action Taken. Based on information provided by the Defense Environmental Security Corporate Information Management office and the audit staff, the Assistant Deputy Under Secretary of Defense agreed that it was not cost-effective to continue to upgrade the interim Army Tank Management system. The Defense Environmental Security Corporate Information Management office discontinued the upgrade in May 1997 and reprogrammed \$98,000 to focus on the target system development. See Part I for a summary of management comments and Part III for the complete text of management comments.

Table of Contents

Executive Summary	i
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Part I - Audit Results

Audit Background	2
Audit Objectives	2
TANKMAN Upgrade	3

Part II - Additional Information

Appendix A. Audit Process	6
Scope	6
Methodology	6
Summary of Prior Coverage	6
Appendix B. Corrective Action Taken	8
Appendix C. Report Distribution	9

Part III - Management Comments

Defense Environmental Security Corporate Information Management Comments	12
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Part I - Audit Results

Audit Background

This audit was part of the overall audit of "DoD Management of Underground Storage Tanks," (Project No. 6CK-5051). The overall audit was jointly conducted by the Inspector General, DoD and the Army, Navy, and Air Force audit agencies. The audit was performed in response to a request from the Assistant Deputy Under Secretary of Defense (Environmental Quality). The Assistant Deputy Under Secretary wanted to know if it was cost-effective to continue to upgrade the interim Army Tank Management (TANKMAN) system.

Target System. DoD managers were using dissimilar legacy (existing) systems to capture, track and report environmental data. To centralize data gathering and facilitate reporting processes, the Defense Environmental Security Corporate Information Management (DESCIM) office is developing the environmental inventory management system, a standardized environmental "target" system. DESCIM evaluated legacy systems the Services were using to manage their storage tanks and selected the TANKMAN system for interim DoD-wide use. TANKMAN was intended to fill the gap until the environmental inventory management system is developed and fielded. The environmental inventory management system will contain a storage-tank module to replace TANKMAN. The target system will also provide automated modules to manage hazardous substances, air emissions, toxic substances, pest management, wastewater, storm water, and potable water environmental programs.

TANKMAN. According to DESCIM, the Army developed TANKMAN to track information pertaining to the physical characteristics, compliance status, and test history of storage tanks. TANKMAN is intended to promote compliance with Federal, state, and local tank regulations and to accumulate information on storage tanks for submission to regulatory agencies. The legacy version of TANKMAN operated in a disk-operating-system environment and was very difficult to use. Also, storage tank reporting requirements changed and the legacy program did not include the new data elements needed to help storage tank managers manage their programs. However, DESCIM officials believed TANKMAN could continue as the interim system if it was upgraded to operate in a Windows-based environment and included 1998 Resource Conservation and Recovery Act (RCRA), Subtitle I, compliance reporting requirements.

Audit Objectives

The audit objective was to assess the cost-effectiveness of continuing to upgrade the Army Tank Management system. This report is one in a series and the management control program will be addressed in the overall audit report. See Appendix A for a discussion of the audit process and for a summary of prior coverage related to the audit objective.

TANKMAN Upgrade

It is not cost-effective to continue to upgrade the interim TANKMAN system because it is unlikely the upgrade can be implemented in time to impact compliance with the Resource Conservation and Recovery Act, Subtitle I. It is also unlikely that the majority of storage tank managers would use the upgraded version of TANKMAN. As a result, the Assistant Deputy Under Secretary of Defense (Environmental Quality) would have spent \$98,000 for unnecessary upgrades to TANKMAN.

Cost-effectiveness

It is not cost-effective to continue to upgrade the interim TANKMAN system. In FY 1996, DESCIM spent \$33,300 to re-engineer the disk-operating-system version of TANKMAN to operate in a Windows environment. Those funds were largely used to develop standardized data elements to facilitate centralized data collection and reporting. That investment was productive because the standardized data elements can be used in developing the target environmental inventory management system. According to DESCIM officials, it would cost another \$98,000 to complete the TANKMAN upgrade effort, field-test the system, and make it available to storage tank managers. That expenditure would be unproductive because the upgraded system cannot be fielded in time to have the desired impact on compliance with RCRA, Subtitle I.

TANKMAN Impact

TANKMAN cannot be upgraded, field-tested, and implemented in time to significantly impact compliance with RCRA, Subtitle I. It is also unlikely that the majority of storage tank managers would use the upgraded TANKMAN because there would not be a requirement to use it, and the managers were comfortable using other automated systems to manage their storage tanks.

Time Required to Field TANKMAN. The TANKMAN upgrade would not be completed in time to significantly impact compliance with RCRA, Subtitle I. According to DESCIM officials, the upgraded TANKMAN system would not be available for use until some time in the second quarter of FY 1998. Once the system is made available to storage tank managers, it would take several more months to implement the system, train storage tank managers to use it, and convert existing data from legacy systems to the upgraded TANKMAN system. Assuming these actions were accomplished expeditiously, it would be the third or fourth quarter of FY 1998 before DoD installations could reasonably be expected to implement the TANKMAN upgrade. This schedule would not result in a significant impact on DoD's ability to comply with the requirements of RCRA, Subtitle I, by December 22, 1998.

TANKMAN Upgrade

Requirement to Use TANKMAN. It is unlikely that storage tank managers would use the upgraded TANKMAN system when available. Storage tank managers were not required to use the disk-operating-system version of TANKMAN, and less than 20 percent of the storage tank managers we interviewed were using it. Furthermore, the Assistant Deputy Under Secretary did not plan to require managers to use the upgraded version of TANKMAN. In addition, storage tank managers expressed reluctance to use any system that they did not control. They felt that in a centrally managed, standardized information management system environment, system administrators would make frequent upgrades and changes that would result in their being in a perpetual learning mode. They believed that keeping up with the changes would be time consuming and counterproductive. These managers already had spreadsheets and databases to manage their storage tank programs and they were comfortable using them. Without reasonable assurance that storage tank managers are going to use the upgraded TANKMAN system, there is no basis for continuing to upgrade it.

Summary

It would not be cost-effective to continue efforts to upgrade the TANKMAN system. The upgraded system would not be fielded in time to impact compliance with RCRA, Subtitle I, and there is no assurance that storage tank managers would use it when available. Therefore, the Assistant Deputy Under Secretary would have spent \$98,000 for unnecessary upgrades to TANKMAN.

Corrective Action Taken

Based on information provided by DESCIM and the audit staff, the Assistant Deputy Under Secretary of Defense (Environmental Quality) agreed that it would not be cost-effective to continue upgrading TANKMAN. DESCIM discontinued the TANKMAN upgrade in May 1997 and reprogrammed \$98,000 in fiscal year 1997 Operations and Maintenance, Army, funds to focus on the target system development (see Appendix B).

Management Comments

DESCIM concurred with the audit conclusion that it was not cost-effective to proceed with the upgrade of the interim Army Tank Management system.

Part II - Additional Information

Appendix A. Audit Process

Scope

We reviewed the cost-effectiveness of upgrading the disk-operating-system version of TANKMAN to a Windows-based operating environment. We evaluated the use of the interim TANKMAN system by storage tank managers at 83 statistically selected DoD installations visited during the overall audit of "DoD Management of Underground Storage Tanks," (Project No. 6CK-5051).

Methodology

We relied on information obtained from storage tank managers at 83 statistically selected Defense Component installations during the overall audit of underground storage tanks. The statistical sampling methodology used will be addressed in the report on the results of the audit of "DoD Management of Underground Storage Tanks." We interviewed storage tank managers to identify the systems being used to capture, track and report storage tank data and to determine whether they used the interim TANKMAN system or planned to use the upgraded Windows-based version of TANKMAN when it becomes available. We also interviewed Assistant Deputy Under Secretary officials to identify the rationale for undertaking the TANKMAN upgrade, and interviewed DESCIM representatives to determine the schedule and resources required to complete the upgrade effort. In addition, we reviewed FY 1996 and 1997 funding and schedule documents to verify incurred and projected costs associated with the TANKMAN upgrade.

Audit Type, Dates, and Standards. We performed this program audit from December 1996 through September 1997 in accordance with auditing standards issued by the Comptroller General of the United States, as implemented by the Inspector General, DoD. We did not use computer-processed data for this audit.

Contacts During the Audit. We visited or contacted individuals and organizations within DoD and the Environmental Protection Agency. Further details are available upon request.

Summary of Prior Coverage

Inspector General, DoD, Report No. 97-208, "Management of Underground Storage Tanks at Fort Bragg," August 26, 1997, concludes that Fort Bragg could not provide a verifiable inventory of underground storage tanks on the installation and did not have a plan or adequate funds to guarantee that at least 212 regulated underground storage tanks on Fort Bragg would comply with

RCRA, Subtitle I, by December 22, 1998. The condition was caused by a lack of program emphasis and oversight which led to the breakdown of controls established to ensure effective management of the underground storage tank program. As a result, Fort Bragg risked being in noncompliance with RCRA, Subtitle I. The report recommended development of a complete, verifiable inventory; determination of the status of underground storage tank compliance with RCRA, Subtitle I; and development of a plan and provision of adequate funds to bring noncompliant underground storage tanks into compliance with RCRA, Subtitle I. The report also recommended that steps to test controls over the management of underground storage tanks be included in Fort Bragg's Environmental Natural Resources Division assessable unit. The Army concurred with all the audit recommendations.

Appendix B. Corrective Action Taken



HEADQUARTERS, DEPARTMENT OF THE ARMY
DEFENSE ENVIRONMENTAL SECURITY CORPORATE INFORMATION MANAGEMENT
(DESCIM)
PROGRAM OFFICE
200 STOVALL STREET
ALEXANDRIA, VIRGINIA 22332-2300

DES97087

12 SEP 1997

MEMORANDUM FOR MS MARIE BEIMA, DOD/IG, AUDIT CM

SUBJECT: Update on Windows Version of TANKMAN

This is the latest status on the Windows 3.1 version of TANKMAN. After some unfortunate delays in the conversion of the DOS version to Windows, it became apparent that the Windows 3.1 version would be too late and too underpowered to meet our customers' needs in a timely manner. Accordingly, I have redirected our resources to implementing the target environment sooner and canceled production of the interim TANKMAN Windows 3.1 version.

A handwritten signature in cursive script, appearing to read "W.L. Meekins".

W.L. MEEKINS
Executive Director

Appendix C. Report Distribution

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Assistant Deputy Under Secretary of Defense (Environmental Quality)
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House Subcommittee on Government Management, Information and Technology,
Committee on Government Reform and Oversight
House Subcommittee on National Security, International Affairs, and Criminal
Justice, Committee on Government Reform and Oversight
House Committee on National Security

Part III - Management Comments

Defense Environmental Security Corporate Information Management Comments



HEADQUARTERS, DEPARTMENT OF THE ARMY
DEFENSE ENVIRONMENTAL SECURITY CORPORATE INFORMATION MANAGEMENT
(DESCIM)
PROGRAM OFFICE
200 STOVALL STREET
ALEXANDRIA, VIRGINIA 22332-2300

DES97104
24 October 97

MEMORANDUM FOR DOD/IG (Ms. Solbrig)

SUBJECT: Draft Audit Report on the Upgrade of the Interim TANKMAN System
(project no. 6CK-5051.03)

1. We have reviewed the Draft Audit Report and we concur with the main conclusion, the development of the Windows version of the migration system should be terminated.
2. In early 1997, the feedback directly to us from customers indicated they would prefer to have us proceed directly to the Target environment for the Tank functionality, rather than continue reengineering the DOS version of the approved migration system into a Windows 3.1 version. The audit provided additional feedback and reached installations we may not otherwise have addressed. This joint effort of DoD/IG and DESCIM demonstrated a good team effort that resulted in the right answer for our customers.
3. Please accept my appreciation for the cooperative and constructive manner in which you conducted the audit.


W. L. MEEKINS, P.E.
Director

CF:
DUSD(ES)(PI) (Mr. Meehan)
HQ DA DAIM-ED (Col Dries)
ODUSD(ES/EQ) (Ms. Sullivan)

Audit Team Members

This report was prepared by the Contract Management Directorate, Office of the Assistant Inspector General for Auditing, DoD.

Paul J. Granetto
Joseph P. Doyle
Addie M. Beima
Brenda J. Solbrig
Major David G. Young

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